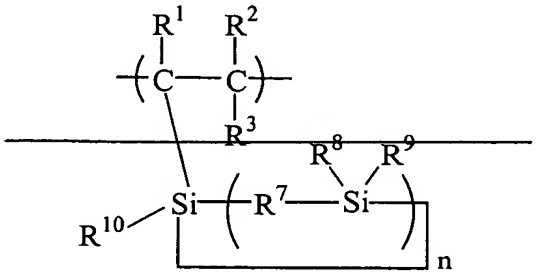
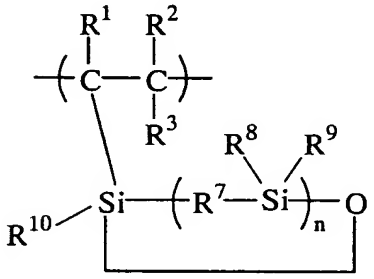
Amendments to the Specification:

Please replace the formula beginning on page 6, line 11, with the following formula:



(2)

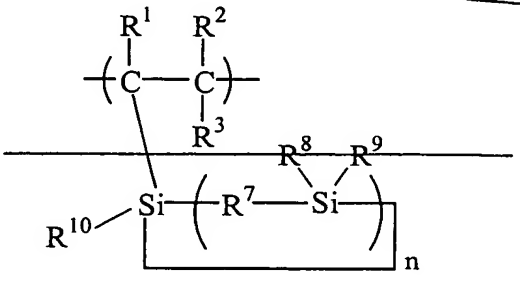
a1



(2)

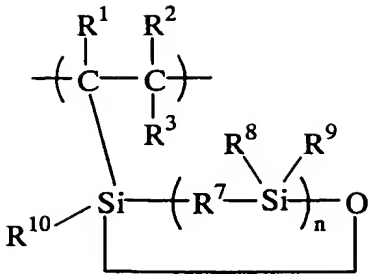
Please replace the formula beginning on page 10, line 1, with the following formula:

a2



(2)

a2



(2)

Please replace the paragraph beginning on page 1, line 6, with the following rewritten paragraph:

--This invention relates to silicon-containing polymers suitable as the base resin in resist compositions, especially chemically amplified positive resist compositions used for micropatterning in a process for the fabrication of semiconductor devices. It also relates to resist compositions, especially chemically amplified positive resist compositions adapted for exposure to high-energy radiation such as deep-UV, KrF excimer laser light (248 nm), ArF excimer laser light (193 nm), ~~F_2 excimer laser~~ F_2 laser light (157 nm), electron beams or x-rays, and a process for forming a pattern. --

a3

Please replace the paragraph beginning on page 2, line 15, with the following rewritten paragraph:

--With respect to ~~F_2 excimer laser~~ F_2 laser (157 nm) which is expected to enable further miniaturization to 0.10 μm or less, more difficulty arises in insuring transparency because it was found that acrylic resins are not transmissive to light at all and those cycloolefin resins having carbonyl bonds have strong absorption. Polymers having benzene rings have a somewhat improved transmittance in proximity to 160 nm wavelength, which is far below the practically acceptable level. It was found that in single layer resists, reducing carbon-to-carbon double bonds as typified by benzene rings and carbon-to-carbon double bonds as typified by benzene rings and carbon-to-oxygen double bonds as typified by carbonyl groups is essential for insuring a light transmittance (see International Work Shop 157nm

a4

Lithography MIT-LL, Boston, MA, May 5, 1999). It was reported in J. Vac. Sci. Technol., B17(6), Nov/Dec 1999 that introduction of fluorine is effective to improve transmittance. A number of fluorinated polymers for resist compositions were proposed in J. Photopolymer Sci. and Technol., Vol. 13, No. 4 (2000), pp. 657-664 and pp. 451-458. However, the transmittance of these polymers does not reach that of polyhydroxystyrene and derivatives thereof adapted for KrF exposure and poly(meth)acrylic derivatives and polycycloolefin derivatives adapted for ArF exposure. --

A4

Please replace the paragraph beginning on page 4, line 29 with the following rewritten paragraph:

--Another drawback of acrylic pendant type silicon-containing polymers is that when observed under a dimension measurement SEM, line dimensions are reduced during measurement. This is because ester groups are cleaved by irradiation of electron beams and the resulting ester end moieties volatilize off. A further drawback is slimming of a resist film upon exposure to a ~~F_2 excimer laser~~ F_2 laser. This is also because volume shrinkage occurs as a result of ester groups being cleaved by irradiation of VUV laser beams. --

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Please replace the paragraph beginning on page 37, line 18 through page 38, line 12 with the following rewritten paragraph:

--Pattern formation using the resist composition of the invention may be carried out by a known lithographic technique. For example, the resist composition may be applied onto a substrate such as a silicon wafer by spin coating or the like to form a resist film having a thickness of 0.1 to 1.0 μm, which is then pre-baked on a hot plate at 60 to 200°C for 10 seconds to 10 minutes, and preferably at 80 to 150°C for 1/2 to 5 minutes. A patterning mask having the desired pattern may then be placed over the resist film, and the film exposed through the mask to an electron beam or to high-energy radiation having a wavelength of less than 300 nm, such as deep-UV rays, excimer laser beams, or x-rays in a dose of about 1 to 200 mJ/cm^2, and preferably about 10 to 100 mJ/cm^2, then post-exposure baked (PEB) on a hot plate at 60 to 150°C for 10 seconds to 5 minutes, and preferably at 80 to 130°C for 1/2 to

A6

3 minutes. Finally, development may be carried out using as the developer an aqueous alkali solution, such as 0.1 to 5%, and preferably 2 to 3%, tetramethylammonium hydroxide (TMAH), this being done by a conventional method such as dipping, puddling, or spraying for a period of 10 seconds to 3 minutes, and preferably 30 seconds to 2 minutes. These steps result in the formation of the desired pattern on the substrate. Of the various types of high-energy radiation that may be used, the resist composition of the invention is best suited to micro-pattern formation with, in particular, deep-UV rays having a wavelength of 254 to 120 nm, an excimer laser, especially ArF excimer laser (193 nm), ~~F_2 excimer laser~~ $\underline{F_2}$ laser (157 nm), Kr_2 excimer laser (146 nm), KrAr excimer laser (134 nm) or ~~Ar_2 excimer laser~~ $\underline{Ar_2}$ laser (126 nm), x-rays, or an electron beam. The desired pattern may not be obtainable outside the upper and lower limits of the above range. --

a6